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17 OCT 1973

MEMORANDUM FOR: Deputy Director for Intelligence

THROUGH : Director, Central Reference Service ²
Acting Chief, Information Services Group
Chief, Document Services Group *ly*

SUBJECT : Problem Summary--OJCS/CRS Merger
Operations

1. OJCS/CRS conversion activities have been under way since April of this year. The transfer of CRS batch applications and message dissemination (MAD) processing was completed during August; delays in equipment delivery to upgrade the OJCS Computer Center have caused slippages in transferring the CRS on-line applications. As things currently stand, however, we are still targeted for discontinuing the CRS IBM System 370 on 31 October 1973.

2. We recognize that a conversion effort of this size is bound to experience problems and this one was no exception. Without the continuing dialogue and spirit of cooperation and good will between personnel of OJCS and the CRS merger team, the transfer of computer workloads could never have progressed as far as it has. We are concerned, however, that the nature of some of the problems still being experienced may be with us for a long time, or simply not go away. The following paragraphs briefly summarize the types of problems, in order of frequency, recorded in our "CRS Daily Report on Processing and Conversion Problems" since 1 September 1973.

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3. Operator Error, Equipment and OS Problems:
These difficulties (some of which are attributable to CRS) have accounted for more than half of our run failures.

a. Typical OJCS operator problems have included: mounting master files (tapes) as scratch (work) tapes, thereby destroying a master file; mounting a wrong input tape which generally aborts the job; mislabeling output tapes, e.g., supplying wrong tape number to the user (generally transposed), etc. (Our magnetic tape file holdings are in excess of 4000. CRS/SSD programmers have spent literally days in recovering lost or damaged tape files.)

b. Equipment problems have included: momentary OJCS hardware failures (equipment checks); problems with CRS's Remote Job Entry (RJE) hardware (HETRA Printer/Card Reader), and CRT failures (blown fuses, paper jams, lines becoming disconnected for unexplained reasons, etc.).

c. Operation System (OS) problems have included: ASP and OS communications problem wherein the system is calling for one tape to be mounted on two tape servos at the same time; unexplained input-output errors; changes made to system software without advance notice to CRS; instances of the inability of system software to validate internal tape labels, etc.

d. Job Control Language (JCL) errors, and mistakes in setting up production run job streams, have been the fault of CRS's Data Management Branch personnel. Operating

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in the OJCS RJE environment has required that we learn a great deal more about the technical workings of the OJCS Computer Center than was formerly required in our own center. This has been a learning process--mostly heuristic--and we are improving with time.

4. Procedural Difficulties Including Resource Contention: When a Remote Job Entry (RJE) job fails, there is usually no attempt by the OJCS operators to issue a restart, and the aborted job must be resubmitted by CRS. Many of our production runs require a large amount of resources and OJCS scheduling algorithms defer these runs to the evening and nighttime hours. When any of the larger jobs fail, it generally means a minimum delay of one full day. CRS customers are not accustomed to this kind of service.

5. Added Administrative Overhead: Operating a production shop in an RJE environment has required a significant increase in the area of administrative and control activities. Virtually every production run must be screened in order to identify the tapes used for that run, and the new tape numbers must be transcribed into logs set up for each job. RJE also requires that cataloged tapes be used, which causes additional overhead for each run, i.e., there is a constant cataloging and uncataloging of tapes.

6. We hope that things will get better and are working to achieve the hope, but:

a. Operator problems may well continue because: (1) OJCS processes so many thousands of jobs that operators have little opportunity to become familiar with the peculiarities of

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each job they handle; (2) the sheer volume of work produced at OJCS makes human error unavoidable; and (3) OJCS has so many operators on rotating shifts that communication (no matter how good) will inevitably break down.

b. Equipment problems constitute the factor least subject to control. You can do nothing about them until they occur, and the OJCS computing environment includes "one heck of a lot of equipment."

c. In some cases, job turnaround could be improved by redesign of applications to better accommodate the RJE environment. Given present staffing, however, and the competing development jobs in queue, it is doubtful that this will be done in the foreseeable future.

d. CRS's Data Management Branch has not yet been passed the responsibility for control of the CRS on-line jobs, nor have they been called on for support of Project SAFE applications. Project SAFE will greatly expand OJCS tape handling and DMB logging responsibilities. The associated manpower costs and problems can be expected to rise accordingly!

7. In addition to the production problems noted above, we are concerned about the level of support we can expect in the future. In late April 1973, we provided OJCS with planning requirements for Core, Direct Access Storage, Estimated CPU Hour Needs, and Terminals. The above took cognizance of our development plans through July 1975, including Project SAFE. On 18 September 1973, we reviewed our requirements with the Deputy Chief, Operations Division, OJCS, and were given assurances that CRS requirements would be

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met. A week later, however, we were advised that, due to a re-evaluation of OJCS requirements, they would be unable to provide all of the requested core, and offered instead to provide approximately 50% of our original request. This reduction forces CRS to scale down planned support for CRS/ISG divisions, as well as support for the SAFE pilot branches. It also forces us to schedule on-line program debug sessions during nonprime time (2000 to 0700 hours, Monday through Friday, or on weekends).

8. The support now promised will accommodate the basic needs of CRS until February 1974. After this date (if relief isn't provided) further development delays or degradation of CRS services can be expected and SAFE will be severely constrained. This kind of unilateral decision-making does not give us much comfort in trying to plan for the future. Backup support for our on-line applications (less MAD) is another area which is extremely shakey, and at the moment we do not know what OJCS plans to do in this area.

9. We have also heard rumblings concerning complete reviews of all CRS applications by OJCS specialists. While this probably is to be expected, it adds another dimension of concern for our ability to support CRS and DDI needs in the future. We would be the first to admit that many CRS applications could be improved by redesign to fit into the OJCS operating environment. To undertake this on any wholesale basis at this time, however, would effectively stretch out the conversion effort for another year or more, and delay any new developmental efforts accordingly.


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